

# Proposal to Adopt Greenhouse Gas Reporting and Project Protocols for Local Government Operations, Urban Forestry and Manure Digesters

Pursuant to the California Global Warming Solutions Act of 2006 (AB 32)

September 25, 2008  
Diamond Bar, California



California Environmental Protection Agency

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# Overview

- Proposed Action
- AB 32 and Voluntary Actions
- Voluntary Protocols
- Recommendations
- Forest Protocol Update



# Proposed Action

- Adoption of California Climate Action Registry Protocols for Voluntary Actions
  - Local Government Operations
  - Urban Forestry
  - Manure Digesters
- Adoption is a non-regulatory action



# Voluntary Protocols



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# AB 32 and Voluntary Actions

- Encourage voluntary early actions
- Adopt quantification methodologies for voluntary GHG reductions
- Adoption does not address credits for AB 32 compliance
- Staff must first develop regulations for compliance credit



# Voluntary Protocol Types

- Reporting Protocols
  - Quantification methodologies for development of GHG emission inventories
- Project Protocols
  - Quantification methodologies for GHG emission reduction projects



# Voluntary Protocol Development

- Joint effort between CCAR, ARB, and other partners
- Developed in open multi-stakeholder public process including public workshops
- Protocols adopted by the CCAR Board in August 2008



# Local Government Operations Reporting Protocol



Developed in partnership with  
CCAR, ARB, ICLEI,  
TCR, and Stakeholders



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# Local Government Operations Reporting Protocol

- Standardized guidelines for developing GHG inventories for Local Government Operations
- Incorporates elements from existing GHG programs and protocols
- Provides a means for a local government to compare improvements of its own operations over time



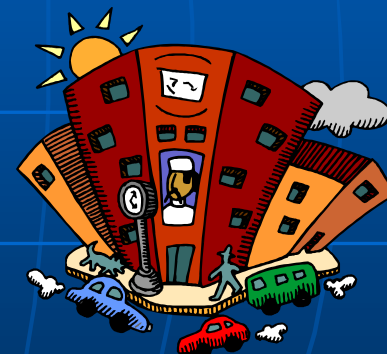
# Local Government Operations and Climate Change

- Many local governments already taking action to reduce GHG emissions
- Emission inventory development can assist in:
  - Tracking performance
  - Identification of reduction opportunities
  - Creating a strategy to further reduce emissions



# What is Included?

- Direct and indirect emissions from:
  - Buildings and other facilities
  - Streetlights and traffic signals
  - Water delivery and wastewater treatment facilities
  - Port and airport facilities
  - Vehicle and transit fleets
  - Power generation facilities
  - Solid waste facilities
  - Other process and fugitive emissions
- Does not cover GHG reduction projects



# Urban Forest Project Protocol



Developed in partnership with  
CCAR, CALFire, USDA Forest Service, ARB and  
Experts from Academia, Government, Utilities, and  
Non-profit Organizations



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# Urban Forests



- Role of urban forests in climate change mitigation
  - Provides carbon sequestration
  - Reduces “heat island effect”
  - Effects on heating and cooling demand for buildings





# Urban Forest Project Protocol

- Standardized GHG accounting methodology for urban forestry GHG reduction projects
- Specific to projects undertaken by:
  - Cities, counties, agencies and local special districts
  - Utilities
  - Educational campuses



# What is Included?

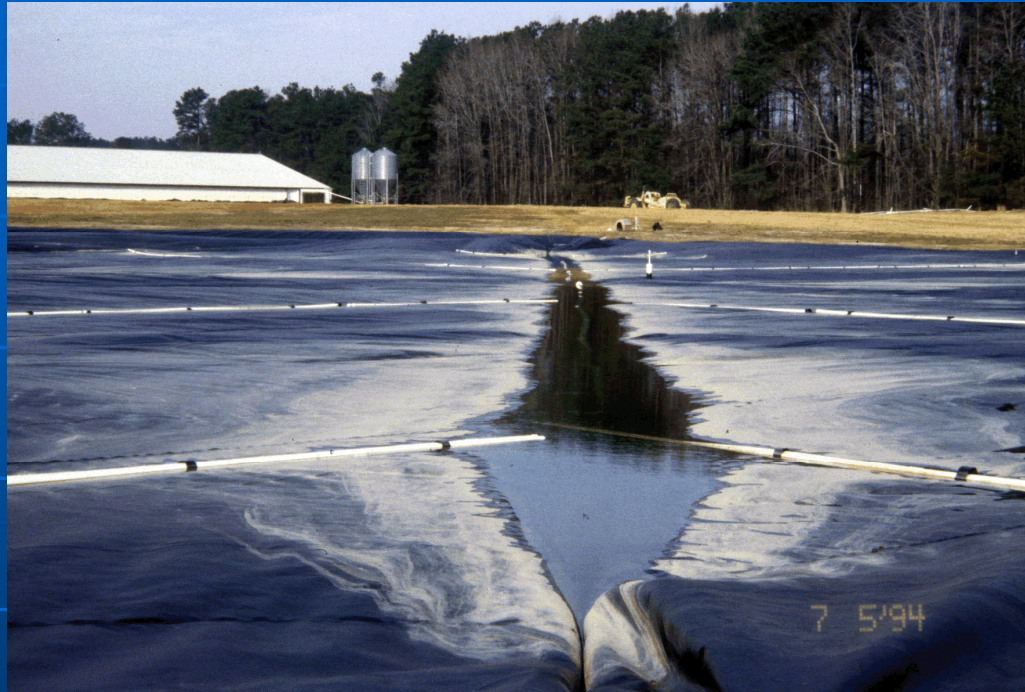
- Calculation methodologies for:
  - Carbon sequestration from urban tree growth
  - Emissions from tree losses
  - GHG emissions associated with planting and maintenance of trees
  - Indirect benefits from building energy use reductions
- Project accounting excludes indirect reductions from building energy use







# Livestock (Manure Digester) Project Reporting Protocol



Developed in partnership with  
CCAR, ARB, Academia, Government and  
Industry



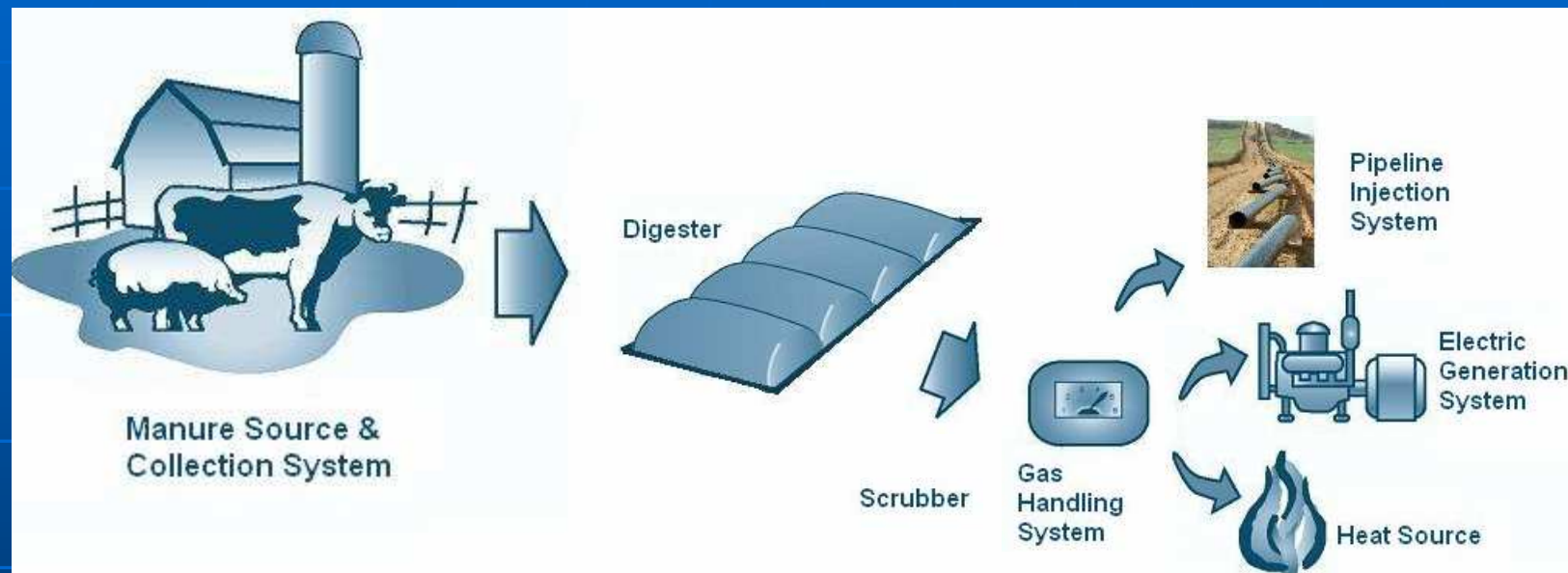
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# Manure Digesters and Climate Change Mitigation

- Manure is a significant source of methane
- Manure digesters reduce GHGs by trapping methane and converting it to CO<sub>2</sub>
- Bio-gas can be utilized for energy



# Example Digester Schematic



Adapted from USEPA - AgSTAR



## Dairy Lagoon Digester Under Construction



## Covered Dairy Lagoon



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**PG&E Facilities**

**Dairy Facilities**

**Metering and  
Pipeline  
Interconnection**

**Compressor,  
Chiller,  
Monitor**

Adapted from PG&E



# Manure Digester Project Protocol

- Standardized accounting methodology for GHG reduction projects utilizing manure
- Derived from international methodologies
- Projects must meet all federal, state and local air and water quality regulations or requirements



# What is Included?

- Calculations of methane and CO2 for:
  - Waste production
  - Waste treatment and storage
  - Waste disposal, including waste transport
- Does not include reductions associated with displacing grid-delivered electricity



# Staff Recommendation

- Adopt the three California Climate Action Registry GHG Protocols for Voluntary Actions
  - Local Government Operations
  - Urban Forestry
  - Manure Digesters





# Other Protocol Activities & Updates

## Forest Protocols Workgroup



# Progress to Date

- Public lands baseline added
- New private lands baseline approach
- Permanence includes assessment and management of risk of carbon reversal
- Flexibility in legal instruments that mitigate risk of reversal
- Oak woodlands/other forests included
- Co-benefits



# Continuing Progress

## Under discussion

- Leakage
- Quantification
- Verification



# Forest Protocols Timeline

- November 18 Updated draft released
- November/December Public comment period with workshops in Ukiah, Redding, and Sacramento
- February/March Final updated draft to CCAR and ARB Boards for adoption

